What is claimed:

1. An isolated nucleic acid molecule selected from the group consisting of:

(a) a nucleic acid molecule comprising the nucleotide sequence set forth in SEQ ID NO:1, 3, 4, 6, 7, 9, 10, or 12 or a complement thereof; and

(b) a nucleic acid molecule consisting of the nucleotide sequence set forth in SEQ ID NO:1, 3, 4, 6, 7, 9, 10, or 12 or a complement thereof.

2. An isolated nucleic acid molecule which encodes a polypeptide selected from the group consisting of:

(a) a polypeptide comprising the amino acid sequence set forth in SEQ ID NO:2, 5, 8, or 11; and

(b) a polypeptide consisting of the amino acid sequence set forth in SEQ ID NO:2, 5, 8, or 11.

3. An isolated nucleic acid molecule which encodes a naturally occurring allelic variant of a polypeptide comprising the amino acid sequence set forth in SEQ ID NO:2, 5, 8, or 11.

4. An isolated nucleic acid molecule selected from the group consisting of:

a) a nucleic acid molecule comprising a nucleotide sequence which is at least 83% identical to the nucleotide sequence of SEQ ID NO:1, 3, 4, 6, 7, 9, 10, or 12, or a complement thereof;

b) a nucleic acid molecule comprising a fragment of at least 20 nucleotides of a nucleic acid comprising the nucleotide sequence of SEQ ID NO:1, 3, 4, 6, 7, 9, 10, or 12, or a complement thereof;

c) a nucleic acid molecule which encodes a polypeptide comprising an amino acid sequence at least about 87% identical to the amino acid sequence of SEQ ID NO:2, 5, 8, or 11; and

d) a nucleic acid molecule which encodes a fragment of a polypeptide comprising the amino acid sequence of SEQ ID NO:2, 5, 8, or 11, wherein the fragment comprises at least 15 contiguous amino acid residues of the amino acid sequence of SEQ ID NO:2, 5, 8, or 11.

5. An isolated nucleic acid molecule comprising the nucleic acid molecule of any one of claims 1, 2, 3, or 4, and a nucleotide sequence encoding a heterologous polypeptide.

6. A vector comprising the nucleic acid molecule of any one of claims 1, 2, 3, or 4.

7. The vector of claim 6, which is an expression vector.

8. A host cell transfected with the expression vector of claim 7.

9. A method of expressing a polypeptide comprising culturing the host cell of claim 8 in an appropriate culture medium to, thereby, express the polypeptide.

10. An isolated polypeptide selected from the group consisting of:

a) a fragment of a polypeptide comprising the amino acid sequence of SEQ ID NO:2, 5, 8, or 11, wherein the fragment comprises at least 15 contiguous amino acids of SEQ ID NO:2, 5, 8, or 11;

b) a naturally occurring allelic variant of a polypeptide comprising the amino acid sequence of SEQ ID NO:2, 5, 8, or 11, wherein the polypeptide is encoded by a nucleic acid molecule which hybridizes to a nucleic acid molecule consisting of SEQ ID NO:1, 3, 4, 6, 7, 9, 10, or 12 under stringent conditions;

c) a polypeptide which is encoded by a nucleic acid molecule comprising a nucleotide sequence which is at least 83% identical to a nucleic acid comprising the nucleotide sequence of SEQ ID NO:1, 3, 4, 6, 7, 9, 10, or 12; and

d) a polypeptide comprising an amino acid sequence which is at least 87% identical to the amino acid sequence of SEQ ID NO:2, 5, 8, or 11.

11. The isolated polypeptide of claim 10 comprising the amino acid sequence of SEQ ID NO:2, 5, 8, or 11.

12. The polypeptide of claim 10, further comprising heterologous amino acid sequences.

13. An antibody which selectively binds to a polypeptide of claim 10.

14. A method for detecting the presence of a polypeptide of claim 10 in a sample comprising:

a) contacting the sample with a compound which selectively binds to the polypeptide; and

b) determining whether the compound binds to the polypeptide in the sample to thereby detect the presence of a polypeptide of claim 10 in the sample.

15. The method of claim 14, wherein the compound which binds to the polypeptide is an antibody.

16. A kit comprising a compound which selectively binds to a polypeptide of claim 10 and instructions for use.

17. A method for detecting the presence of a nucleic acid molecule of any one of claims 1, 2, 3, or 4 in a sample comprising:

a) contacting the sample with a nucleic acid probe or primer which selectively hybridizes to the nucleic acid molecule; and

b) determining whether the nucleic acid probe or primer binds to a nucleic acid molecule in the sample to thereby detect the presence of a nucleic acid molecule of any one of claims 1, 2, 3, or 4 in the sample.

18. The method of claim 17, wherein the sample comprises mRNA molecules and is contacted with a nucleic acid probe.

19. A kit comprising a compound which selectively hybridizes to a nucleic acid molecule of any one of claims 1, 2, 3, or 4 and instructions for use.

20. A method for identifying a compound which binds to a polypeptide of claim 10 comprising:

a) contacting the polypeptide, or a cell expressing the polypeptide with a test compound; and

b) determining whether the polypeptide binds to the test compound.

21. The method of claim 20, wherein the binding of the test compound to the polypeptide is detected by a method selected from the group consisting of:

a) detection of binding by direct detection of test compound/polypeptide binding;

b) detection of binding using a competition binding assay; and

c) detection of binding using an assay for hVR-1, hVR-2, or rVR-2 activity.

22. A method for modulating the activity of a polypeptide of claim 10 comprising contacting the polypeptide or a cell expressing the polypeptide with a compound which binds to the polypeptide in a sufficient concentration to modulate the activity of the polypeptide.

23. A method for identifying a compound which modulates the activity of a polypeptide of claim 10 comprising:

a) contacting a polypeptide of claim 10 with a test compound; and

b) determining the effect of the test compound on the activity of the polypeptide to thereby identify a compound which modulates the activity of the polypeptide.

24. A method for treating a subject having a disorder characterized by aberrant hVR-1 or hVR-2 protein activity or nucleic acid expression comprising administering to the subject a hVR-1 or hVR-2 modulator such that treatment of the subject occurs.

25. The method of claim 24, wherein the hVR-1 or hVR-2 modulator is a small molecule.

26. The method of claim 24, wherein the disorder is a pain disorder.